

REMARKS

In the Office Action mailed April 8, 2004 claims 1-13 were rejected under 35 USC §102 and §103 in view of Tulpule (USP 4,980,824) and Kitta (USP 5,754,781). Claims 14-25 are withdrawn from consideration subject to reinstatement in a divisional application.

The amendments set forth herein are provided solely to clarify the invention as filed and set forth in the pending claims in order to comply with applicable statutes and regulations. The amendments are not intended to limit the invention or preclude the application of equivalents which Applicant may be entitled to under law.

Prior Art Rejections

A rejection under 35 USC §102 requires that the cited reference teach all the claimed elements. A rejection under 35 USC §103 requires that the combined references suggest the claimed combination. (MPEP 706 and 2141 et seq.).

35 USC §102

Claims 4-11 were rejected under §102 in view of Tulpule.

The present invention is directed to an efficient technique for use in a system having a plurality of components and a communication medium. The invention moves the decisions about the scheduling of transfers from individual components with an arbitration mechanism to one or more centralized scheduling processors. Scheduling decisions are made in advance by the processors and then communicated to the participating components using a transaction protocol. The transaction protocol allows the scheduling processor to create chained sequences of transfers. The elements of each chained sequence can then be performed by the individual components without additional communication with the scheduling processor.

Tulpule is directed to a technique for breaking up tasks originally designed for one processor for execution on a plurality of signal processors. Tulpule creates a dependency table on which the processors rely to complete their respective tasks. Tulpule does not teach or suggest any technique for managing multiple components over a communication medium.

Claim 4 is directed to a method of controlling system operation between a plurality of components coupled to at least one communication medium. Claim 4 requires the following:

said scheduler sending a first command to a first component to transfer data over said communication medium;

said scheduler sending a second command to a second component to transfer data over said communication medium;

notifying said second component upon completion of said first command;

initiating execution of said second command upon completion of said notifying step.

Tulpule does not teach or suggest sending commands to components to selectively perform data transfers over a communication medium. Moreover, Tulpule does not teach or suggest a technique for notifying a second component when the first component has completed its transfer.

Claims 5-6 depend from claim 4 and further recite aspect of the ordering technique which, in combination with claim 4, is not taught or suggested by Tulpule

Claim 7 depends from claim 4 and further recites features that in combination with claim 4 are not taught or suggested by Tulpule.

Claims 30-33 depend from claim 4 and further recite aspects of the communication medium, which in combination with claim 4, is not taught or suggested by Tulpule.

Claim 8 recited features similar to that of claim 4, including steps of:

receiving a first command from said scheduler by a first component to transfer data over said communication medium;

receiving a second command from said scheduler by a second component to transfer data over said communication medium;

performing said first command;

notifying said second component upon completion of said performing step; and

initiating said second command upon completion of said notifying step.

Claims 9-11 and 34-35 depend from claim 8. For the reasons set forth above, Tulpule does not teach or suggest the claimed features either alone or in combination with one another.

For these reasons, Applicant submits that the invention set forth in claims 4-11 and 30-35 is not taught or suggested by Tulpule. Consequently, Applicant requests that the Examiner reconsider and withdraw the §102 rejections.

35 USC §103

Claims 1-3 and 12-13 were rejected under §103 in view of Tulpule and Kitta.

Under the Graham test, three factors must be evaluated: the scope and content of the prior art; the differences between the prior art and the claimed invention; and the level of ordinary skill in the art. (MPEP 706 and 2141 et seq.).

Tulpule is described above.

Kitta is directed to a technique for data transfer control comprising instruction storage units and decoding units. While the Kitta invention is in the field of computer technology, there is no suggestion therein to combine it with Tulpule. Moreover there is no suggestion in Tulpule to combine it with any teachings set forth in Kitta. For example, Kitta does not describe any techniques for arbitration or scheduling as required in the presently claimed invention.

The presently claimed invention includes a number of features not taught or suggested by either reference. For example, claim 1 requires a method for scheduling communication between a plurality of components coupled to at least one communication medium and at least one scheduling processor comprising the steps of:

- initiating a transfer by the scheduling processor sending a transfer command to a first component;

- transferring data from said first component to a second component over said communication medium;

- said second component notifying a third component upon completion of said transferring data step;

- wherein said transfer command identifies said second and said third components.

Neither Tulpule or Kitta teach or suggest a plurality of components where the scheduling processor sends a transfer command to a component to a component, which results in the transfer of data to a second component, which then notifies a third component. For this reason, Applicant submits that the claimed invention is not taught or suggested by the references. In addition, skill in the art does not supply the differences between the references and the claimed invention.

With respect to claim 12, claim 12 requires a method for scheduling communication between a plurality of components coupled to at least one communication medium and at least one scheduling processor comprising the steps of:

- said scheduler receiving transfer requests from requesting components;
- said scheduler constructing a transfer command for each of said transfer requests;
- said scheduler sending said transfer commands to said requesting components;
- wherein said transfer command further comprises;
 - (a) a destination address identifying a destination component; and
 - (b) a notification address identifying an acknowledge component.

Neither Tulpule or Kitta teach or suggest a plurality of components sending transfer requests to a scheduler which then issues a transfer command for each request. For this reason, Applicant submits that the claimed invention is not taught or suggested by the references. In addition, skill in the art does not supply the differences between the references and the claimed invention.

For these reasons, Applicant submits that the invention set forth in claims 1-3, 12-13, 26-28 and 36-37 is not taught or suggested by Tulpule and Kitta either alone or in combination. Consequently, Applicant requests that the Examiner reconsider and with draw the §103 rejections.

Conclusion

Applicant has amended the claims to further clarify features that are not taught or suggested by the references. For these reasons, Applicant respectfully requests that the Examiner reconsider and withdraw the rejections of the claims.

If any matters can be resolved by telephone, Applicant requests that the Patent and Trademark Office call the Applicant at the telephone number listed below.

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